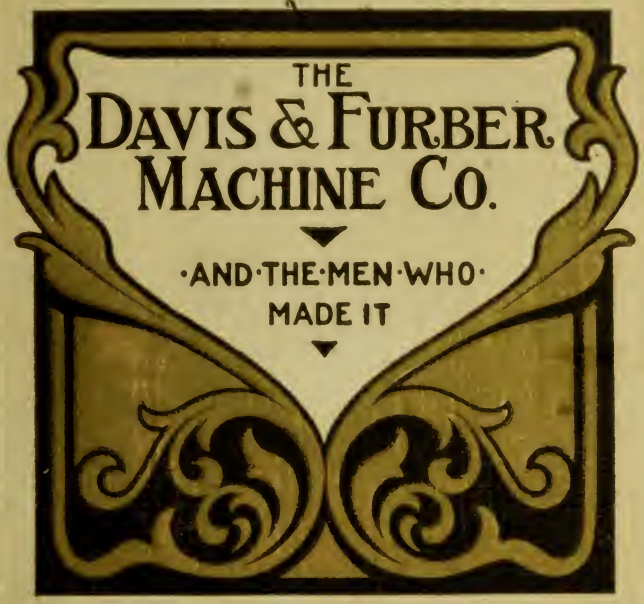
Andover, Mass



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H. B. McARDLE

The Davis & Furber Machine Company

and

The Men Who Made It

1832 1908

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by
The Davis & Furber Machine Company

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Foreword

THE most potent factor in the success of a growing business is the character of the men engaged in it. Although the scope of this book is confined to those who were during their lifetime members of the firm it should be borne in mind that the Company remembers with deep gratitude and with pride those scores of strong men who, through the years, have patiently given the best out of their lives for its advancement.

The Davis & Furber Machine Co.

NORTH ANDOVER, in Essex County, Mass., has an interesting history. Until 1855, when it was incorporated as a separate town, it was the North Parish of the famous town of Andover, founded in 1636, only sixteen years after the landing of the Pilgrims. The original settlement was called Cochichawick, the name Andover first appearing in 1644, and the town being incorporated in 1646. The settlers locating in what was later termed the North Parish, there erected their log cabins and built their church. Here, too, some of the Acadian exiles for a while found shelter and a dwelling place, and, tradition says that Evangeline herself at one time frequented the hills and streams near Lake Cochichawick.

North Andover early became noted for the patriotism, the statesmanship, the public spiritedness, and the enterprise of its citizens, among whom were Governor Bradstreet, Governor Phillips, and other Colonial dignitaries. It is not strange, then, that men of such parts made this town one of the pioneer manufacturing towns of the country.

The demand for food could be met abundantly at their very doors. The problem presented by the demand for suitable clothing was more perplexing. The mother country for various reasons did not encourage the making of cloth on this side of the ocean. There was no money with which to buy clothing, no tools or machines for making cloth, and little or no knowledge of the art. The sturdy colonists of Andover were not long in solving this problem. Notwithstanding the opposition from across the ocean, crude spinning wheels and hand looms began to multiply in their homes. The town in 1787 made an appeal "to the good sense and virtuous disposition of the female sex, to the younger as well as to the elder, that they would, by their engaging example, economy, and simplicity in dress, giving preference to that clothing which is produced from our flocks and from our own fields, encourage home industries." From this small beginning they speedily became masters of the art of making cloth.

In Andover this development early took definite form; by the year 1690, the town had fulling mills to finish the product of their looms, and during the Revolutionary War they furnished the soldiers good serviceable cloth. It was in the year 1802,

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however, that the North Parish could first really boast of a woolen mill, and they had good grounds for feeling elated since this was one of the first complete woolen mills in the country. In that year James Scholfield, one of the Scholfield brothers, famous in the history of woolen manufacture, set up one of his brother Arthur's "improved carding machines," and carried on the business of making fine woolen goods, in a small wooden building on Cochichawick brook. The Davis & Furber Machine Company still have in their possession the first carding machine ever put together and operated in America. This machine, said to have been partially smuggled over from England and completed in Newburyport, was without doubt the work of the Scholfield brothers, who managed the North Parish woolen mill in 1802. In October, 1813, James Scholfield was engaged to manage the mills then being erected by Capt. Nathaniel Stevens further up the stream. The business thus founded by Capt. Nathaniel Stevens was the beginning of the present large firm of M. T. Stevens & Sons Company, which owns and manages, besides the mills at North Andover, mills at Haverhill, Franklin, Andover, and other places. The mills at Andover were built by Abraham Marland who, coming from Ipswich in 1807, was in 1810 selling the cloth he had manufactured at his mill. The Scholfield Brothers' mill passed through several hands, and in 1826 came into the possession of Mr. William Sutton of Danvers, and has since remained in the Sutton family, being now managed by Mr. William Sutton of North Andover. Thus it is clear that the North Parish was one of the pioneer mill towns of the country. The inventive genius called forth by these changes slowly but surely developed a class of skilled laborers and mechanics.

From the manufacture of goods it was but a step to the construction of the necessary machinery. In 1824, John Smith, the founder of the present firm of Smith & Dove, in partnership with two others, built a shop for making cotton mill machinery. This shop, 72′ x 37′, a large building for those days, was successfully carried on until about 1836, when, owing to the death of two of the partners, it was given up, and Mr. Smith, together with his brother Peter and John Dove, turned his energy to the working of flax. The manufacture of woolen machinery originated in Andover in 1832. Jonathan Sawyer of Harvard, and Russell Phelps of Sutton, machinists, came from a shop in Worcester, and began the manufacture of machinery for woolen mills, under the patronage of Mr. Abraham Marland in the basement of his

mill. Sawyer, Phelps & Company, as the new concern was called, bent all their energies to the manufacture of Cards and Spinning Jacks. The carding machines, as can easily be imagined, were nothing like the massive constructions now in use. They were made of wood and patterned after the "improved carding machine" which had been made by Arthur Scholfield. The Jacks for spinning wool by power were developed by Russell Phelps himself, and were probably modeled after the English spinning machine of Crompton, which was first completed in 1779. The Crompton machine was in turn a combination of the Hargreaves Jenny and the Arkwright Spinning Frame. It is to be inferred that the business as conducted by Sawyer, Phelps & Company, was not particularly successful, as in 1834 they sold out to three of their employees, Charles Barnes, George H. Gilbert, and Parker Richardson, who continued the business under the firm name of Barnes, Gilbert & Company. Mr. Barnes retired from the firm October 1, 1835, and associated himself with Mr. John Marland in the manufacturing of flannels at Ballard Vale in the town of Andover.

The succeeding firm of Gilbert & Richardson continued business in what was called "The Paper Mill" in Andover, until in October, 1836, they moved to the North Parish. Here they purchased from Isaac Osgood the saw and grist mill on Cochichawick brook together with the water power, and also some land from Moody Bridges on the opposite side of the road, erected a machine shop, and moved their tools and patterns over from South Andover. This new shop, of which the owners must have been justly proud, was a two-story, pitched roof affair, insignificant indeed when compared with the immense plant now covering the same site; but it answered their purposes well, and transformed this rather new and unsettled country into a busy community. Their chief business still continued to be the building of woolen machinery.

In the early days when railroads were just beginning to appear, when steam engines had not reached their present economical basis, and when as a result the principal factor in locating a factory was the water power at hand, the enlargement and growth of such a business was limited to an extent that it is hard for us to realize, accustomed as we are to rapid and easy transportation. Up to the year 1836, the machinery had to be teamed to Wilmington. This distance was shortened five miles in 1836, when the Boston & Portland, now part of the Boston & Maine Railroad Company, built their tracks from Wilmington to Andover, which was but four miles from

Gilbert & Richardson's North Parish establishment. In 1840, however, the road extended through the North Parish to Exeter, N. H., and in 1843 machinery could be shipped direct to Portland. From that time on business extension was much simplified.

In January, 1838, Mr. Charles Barnes once more entered the firm, changing its name to Barnes, Gilbert & Richardson. These partners continued with a slowly increasing business, for mills in those days were not numerous, until about April, 1841, when, owing to some dissatisfaction or to gloomy business prospects, the firm was dissolved and the entire property sold at auction. It was bid in by Mr. Charles Barnes for $30,000, but because he was unable to pay the money, it was put up again. This time it was sold to Mr. Isaac Osgood, from whom the original saw and grist mill had been bought, for $25,000. It seemed then as if the woolen machinery business in this locality was at an end.

This, however, was not to be. Six years before, in 1835, George L. Davis, then a young man, nineteen years of age, had left his father's farm in Oxford, Mass., and come to Andover, to learn the machinist's trade with Gilbert & Richardson. This young man appreciated the possibilities of the business. Accordingly, after the second sale of the shop, and after talking the matter over with his uncle, Mr. Gilbert, he rented the plant from Mr. Osgood for five years. The firm thus established was composed of George H. Gilbert, Benjamin W. Gleason, and George L. Davis (then twenty-five years old), under the name of Gilbert, Gleason & Davis. This new firm continued together for five years until October 1, 1846. Mr. Gilbert then sold out his interest to his partners, removed to Ware, Mass., and with Charles Stevens began the manufacturing of flannels, and became one of the most influential and wealthy manufacturers of the state. On his death, in 1869, he left to his sons a well organized business which they have enlarged and carried on with great ability.

After the retirement of Mr. Gilbert, Gleason & Davis continued the business until July 1, 1848, when Mr. Gleason, being in poor health, sold one-half of his interest to Charles Furber, and commenced the manufacture of flannels at Rock Bottom, later called Gleasondale, Mass. The firm of Gleason, Davis & Furber continued operations until October 1, 1851, when Mr. Gleason sold out his remaining interest to his partners, and the firm name was changed to Davis & Furber, a title which it kept until January 1, 1883. Then the Davis & Furber Machine Company was incorporated under the laws of Massachusetts, with a

capital stock of $400,000, with George L. Davis as treasurer. Mr. Gleason after leaving the firm devoted himself entirely to his mills at Rock Bottom, and built up the large business now carried on by his son, A. D. Gleason.

Davis & Furber were from the beginning successful. In 1853 they were able to buy from the estate of Isaac Osgood the land, water power and buildings, for which they had up to this time been paying rent. Thus firmly established, with the increase of their business their enlargement was rapid. In 1857 they raised their building one story, changing from a pitched to a gravel roof.

On June 19th of that year the firm met with a great loss in the death of Charles Furber, but thirty-nine years old, in the full vigor of life. It was a severe blow. Mr. Davis, the surviving partner, purchased of the estate the entire interest of Mr. Furber, continuing the business alone for six months, until on January 1, 1858, he took in as partners John A. Wiley and Daniel T. Gage. Mr. Gage remained but a short time, selling out January 1, 1860, to Mr. Davis and Mr. Wiley, and beginning the manufacture of woolen machinery in Philadelphia, under the name of Furbush & Gage. January 1, 1861, the firm took into partnership Joseph M. Stone, a practical machine maker from the Manchester Locomotive Works of New Hampshire. Mr. Davis, Mr. Wiley, and Mr. Stone remained for many years the principal owners, taking into partnership with them on January 1, 1868, George G. Davis, Joseph H. Stone, and James H. Davis, sons of the members of the firm. From time to time since then new members have been taken into the Company. A complete list of all partners past and present is given on page 16.

The castings to supply the machine shop were bought from outside foundries up to the year 1863. In the early days they came from South Newmarket, N. H., and later from the foundry of E. Davis & Son, situated just west of the shop. But in 1863 the firm erected its own foundry on the present site and has ever since done its own moulding. E. Davis & Son at that time moved to Lawrence, where the business is still carried on as The Davis Foundry Company.

The Davis & Furber Machine Company occupy the same site and utilize the same water power on Cochichawick brook in North Andover that was first bought by Gilbert & Richardson in 1836. Instead of one small, two-story, pitched roof building, containing but few tools, there are now ten commodious shops, with a floor room of eight or nine acres, filled with

modern machinery of the most improved type. The entire plant, including cottages, tenements, and storehouses, occupies about seventy acres. And instead of making Cards and Jacks only, this corporation now builds nearly every kind of machine used in the manufacture of woolen goods, as well as Nappers, Card Clothing, Shafting, Hangers, Pulleys, etc.; and is and has been for several years the largest manufacturer of this class of machinery in the United States, probably building more woolen cards and mules each year than any other concern in the world.

In its long and successful career, the Davis & Furber Machine Company has built machinery for almost every state in the Union which has a woolen mill, for Canada, Mexico, the West Indies, South America, and even some parts of Europe. To accomplish this has required the energy, ability, and experience of several men of character whose names are a credit to their country. Of the two pioneers in this enterprise, Jonathan Sawyer and Russell Phelps, there are few records left. Although the real prosperity of the firm began after it was known as Davis & Furber, yet before that time the members of the firm were all strong, determined men, well worthy of the place they made for themselves.

A Few Notes of Merely Local Interest

IN 1889, the original shop built in 1836, was moved to the location shown on the plan, in order to make room for number six brick shop. It is still in use as a storehouse.

The office has been moved several times. It was at one time over the general store of Stephen H. Parker. From there it was transferred to a small two-story building next to the original shop. Again it was moved in 1865 to the front part of the wooden card clothing building then just completed, and finally in 1887, it was moved to the present office building.

Stephen H. Parker's general store stood about thirty feet back from the road where the first wooden card clothing building now stands. After the office moved out the second story was taken by the Webster Associates, a flourishing ante-bellum debating society. In 1864, the building was moved to East Water street, where it stood until it was torn down about 1900.

The small two-story office building

spoken of above was moved across the road and attached to the original shop. While the upper story was used as an office the lower story served for the tin shop and the spindle straightening. In 1889, this building was sold and moved to May street near the North Andover depot, where it is to-day used as a dwelling house.

The original grist mill of Isaac Osgood stood right next to the present dam of the Davis & Furber mill pond. The original sawmill stood a little way to the southwest of the grist mill, approximately on the site of the first brick shop on Water street, shown on the plan as number three machine shop. These were both torn down in 1860, to make way for the brick shop then being built.

It is interesting to note that the Cards first made by the Company were not arranged to put the roping on spools ready for the Jacks, but had sheet doffers and dropped the stock down under the Card in "rolls" the length of the doffer, which were taken out by a boy and pieced together by hand ready for the "billy," or some similar machine, to draw them down into roping fine enough to spin.

The "Brick Shop" was built in 1860, when the war fever was at its height. North Andover was among the first to organize a militia company, and the upper part of this new shop, having no posts, proved a fine drill hall. Under Samuel Oliver, son of General H. K. Oliver, this company, electing "Phon" Stoddard as their captain, drilled assiduously. It was a great disappointment when the first quota of 75,000 men was completed without their being called out. The spirit of patriotism, however, was so strong that, according to Mr. W. W. Chickering, now superintendent of the Mule Department, "Nearly every mother's son of them enlisted in some one of the various Massachusetts regiments, principally the 11th, 12th, and 19th," including young Chickering himself, then but seventeen years old.

GROUND PLAN OF
DAVIS & FURBER MACHINE CO
JANUARY 1908

Table Showing the Date of Erection and Size of the Principal Buildings

DATE BUILT	NAME	STORIES	SIZE IN FEET	MATERIAL
1836	Original Shop	2	100 x 40	Wood
1854	Addition of 30′ to above	2	30 x 40	Wood
1857	Whole building raised one story			
1860	Brick Shop on Elm Street, including Blacksmith Shop	4	156 x 50	Brick
1863	Two Stories added to the Blacksmith Shop			Brick
1863	Foundry	1	166 x 72*	Wood
1864	Wooden Card Clothing Building	4	100 x 50	Wood
1872	Above doubled in size	4	100 x 50	Wood
1881	Brick Shop on Water Street	3	202 x 50	Brick
1882	Forge Shop	1	146 x 44	Wood
1886	64′ addition to shop of 1881	3	64 x 50	Brick
1887	Office and Card Clothing Building	2	320 x 54	Brick
1889	No. 6 Shop, Elm Street	3	142 x 40	Brick
1890	Pattern House	3	202 x 40	Brick
1899	Iron and Steel Forge Shop Extension	1	144 x 44	Wood
1901	80′ addition to shop of 1881	3	80 x 50	Brick
1902	96′ addition to shop of 1881	3	96 x 50	Brick
1907	Case Hardening Plant	1	68 x 28	Brick

*Increased by small additions to about 166′ x 160′ approximately in 1907

In the above table no mention is made of the various storehouses for lumber, etc., or of the barns and different minor buildings.

Charles Barnes

CHARLES BARNES was born December 14, 1806, at Dudley, Mass., and died at North Andover, Mass., December 21, 1888. In his early days he learned the cabinet maker's trade in a shop near home. About 1833 he entered the employ of Sawyer, Phelps & Company in their Andover shop, working for them until 1834, when he and Mr. Gilbert and Mr. Richardson, bought out their employers and formed the firm of Barnes, Gilbert & Company. From 1835 to 1838, Mr. Barnes left the firm and associating himself with Mr. John Marland, started the now prosperous Ballard Vale Mills Company. But in 1838 he once more took up the machinery business in North Andover, under the name Barnes, Gilbert & Richardson. He married about this time Mary, daughter of Moses Foster of the North Parish. Here he continued until in 1841 he left the firm for good and once more went to Ballard Vale. In 1842, as agent of the Ballard Vale Company, he went to England to buy worsted machinery, which the Company installed and ran successfully. In 1853 their worsted machinery was transferred to the Pacific Mills in Lawrence.

Mr. Barnes and a Mr. Mansur in 1845 bought of Mr. John Marland, of Andover, a mill in Clapville, now Rochdale, Mass. Mr. Barnes stayed here until some time after 1856. The mills suffered by fire more than once during this time and changes in management were frequent. In 1846 Reuben S. Denny bought the Mansur interest, and in 1850 the Barnes interest. In 1856 Eben S. Dale of Boston bought the whole property. The present mills were probably built by Mr. Denny during the fifties. E. G. Carleton, who was appointed agent in 1856, continued in the business for nearly fifty years, establishing with one of the mills the present firm of E. G. Carleton & Sons. The other mill passed through various hands, and is now owned by A. Howarth & Son. Leaving Rochdale, Mr. Barnes went to the Slater Woolen Co. of Webster, and then to the American Mills, Rockville, Conn. He later took up the silk business in Rockville.

Mr. Barnes was considerate and honest, ever ready to help those who appealed to him for aid. "From early life an invalid, his indomitable courage and will power enabled him to live a life of great industry and usefulness. He was an unpretentious, kindhearted gentleman, highly esteemed and respected by all."

George H. Gilbert

GEORGE H. GILBERT was born at Brooklyn, Conn., February 15, 1806, and died May 6, 1869. When twelve years of age he left his home to make his way alone in the world, going first to Pomfret, Conn., for six years, then to Sutton, Mass., where he learned the carpenter's trade. Leaving Sutton in 1827 he went to Worcester, working as a carpenter until 1832, and gaining a thorough knowledge of the business. In May of 1832, he moved to Andover, where for a short time he worked as a journeyman for Sawyer, Phelps & Company, until in January, 1834, he bought part of the business of his employers and formed the firm of Barnes, Gilbert & Company, which later became Gilbert & Richardson, and was moved in 1836 to the North Parish, subsequently named North Andover. About 1841 Mr. Gilbert, while still retaining his interest in the firm, moved to Ware, Mass., and there formed a co-partnership with Charles A. Stevens, son of Capt. Nathaniel Stevens of North Andover, under the name of Gilbert & Stevens, beginning the manufacture of fine flannels. In October 1846, Mr. Gilbert withdrew entirely from the firm of Gilbert, Gleason & Davis at North Andover, and gave his entire attention to that enterprise to which he devoted the remainder of his life, and which grew into the extensive industrial establishment which now bears his name. In 1851 he and Mr. Stevens divided the mill property and continued business independently.

Mr. Gilbert was prominent in public life, being at times State Representative and Senator. While in the Senate he was Chairman of the Committee on Manufactures. At his death he left not only a large fortune, and an extensive business (the largest manufactory of fine flannels in the United States), but also a reputation for integrity and fidelity of which his descendants may well be proud.

A Table Showing the Name and Members of the Firm at Different Dates

FIRM NAME	DATE	MEMBERS	
Sawyer, Phelps & Co.	1832-1834	Jonathan Sawyer	1832-1834
		Russell Phelps	
Barnes, Gilbert & Co.	1834-1835	Charles Barnes	1834-1835
		George H. Gilbert	1834-1846
		Parker Richardson	1834-1841
Gilbert & Richardson	1835-1838	George H. Gilbert	
		Parker Richardson	
Barnes, Gilbert & Richardson	1838-1841	Charles Barnes	1835-1841
		George H. Gilbert	
		Parker Richardson	
Gilbert, Gleason & Davis	1841-1846	George H. Gilbert	
		Benjamin W. Gleason	1841-1851
		George L. Davis	1841-1891
Gleason & Davis	1846-1848	Benjamin W. Gleason	
		George L. Davis	
Gleason, Davis & Co.	1848-1851	Benjamin W. Gleason	
		George L. Davis	
		Charles Furber	1848-1857
Davis & Furber Incorporated under Massachusetts laws in 1883 as The Davis & Furber Machine Co.	1851	George L. Davis	
		Charles Furber	
		John A. Wiley	1858-1905
		Daniel T. Gage	1858-1860
		Joseph M. Stone	1861-1887
		George G. Davis	1868
		Joseph H. Stone	1868
		James H. Davis	1868-1886
		George L. Wright	1887
		Eben A. Baldwin	1892-1898
		Oscar M. Godfrey	1903
		George L. Hamilton	1903

Parker Richardson

PARKER RICHARDSON was born August 13, 1804, in what is now Lawrence but at the time of his birth was a part of Andover and called the "Moose Country." In his young manhood days he learned the blacksmith's trade. He became a good all around workman, and particularly noted for his skill in shoeing horses and oxen.

He became a practical business man and was so recognized by Mr. Gilbert, his partner, for when the firm concluded to remove to North Andover it was Parker Richardson who arranged the contract for building the first machine shop building, and superintended its construction.

But for his early death, October 20, 1844, when but forty years old, he undoubtedly would have been far more widely known and successful. It is said of him that he was energetic, industrious, affable; and a man of excellent business judgment. He was of noble character, with lofty ideals, and a devoted Christian man.

He was a public-spirited man, and his interest was not limited to building machinery but extended to church work and other activities. He bought land on Main Street in Andover, near the Shawsheen River, and built himself a brick homestead which is still standing. He also owned the brick store building in Frye Village. At one time he owned a grocery store in North Andover, located near what is now Main and Second Streets, and a nephew, James A. Roberts of Andover, was for a while clerk in his store. This young man afterwards became a successful leather merchant in Boston.

His business associates deeply regretted the early death of Parker Richardson, for he was not only valued in his business dealings, but was greatly beloved by all who knew him.

Benjamin Whitney Gleason

MR. GLEASON was born at Petersham, Mass., October 12, 1806, and died at Gleasondale, Mass., January 19, 1884. He was descended in the seventh generation from Thomas Gleason, who was of Watertown, Mass., in 1640. Joseph Gleason, his father, died in 1808, when the subject of this sketch was but two years old. Benjamin was therefore dependent for his honorable career upon his native talent and great strength of character, together with such self discipline and culture as he was able to secure in a life characterized, especially in its first forty years, by repeated changes of business and location.

When about fourteen years old he entered an establishment in his native town to learn the trade of cabinet making, and served through the whole term of his apprenticeship with great fidelity, gaining an expertness in the use of tools and a general acquaintance with mechanical operations which were of great value to him in his subsequent life. Soon after reaching his majority he went to Grafton, Mass., and worked for a time in the woodworking department of a cotton mill. From Grafton he removed in 1833 to Worcester, working as a journeyman in a machine shop. Leaving there in 1837, he entered the employ of Gilbert & Richardson at North Andover, being taken into partnership in 1841, under the style of Gilbert, Gleason & Davis, which later, on the retirement of Mr Gilbert, became Gleason & Davis, and on the admission of Charles Furber, Gleason, Davis & Company, Mr. Gleason being in poor health retired from the active management of the business in 1848. Before long, however, he was at work again in the endeavor to place the insolvent Rock Bottom Company on a paying basis. In this, as in almost everything else he attempted he was successful, and laid the foundation of the large business now ably conducted by A. D. Gleason at Gleasondale.

Mr. Gleason was self reliant, systematic, tireless, and of great executive ability. During the eleven years in which he was at North Andover, he manifested a deep interest in the village affairs and his early removal was greatly regretted.

He served as Representative and State Senator, and was sought after, to the end, as director and advisor in many business interests.

George Lucien Davis

GEORGE LUCIEN DAVIS was born at Oxford, Mass., June 17, 1816, the eldest son of Jonathan Davis and Betsey (Gilbert) Davis. He married October 27, 1841, Harriet K. Roberts, by whom he had twelve children, and died December 23, 1891, having passed his seventy-fifth birthday. His ancestor, William Davis, came from Wales about 1635, and settled in what is now Roxbury, Mass. William Davis's grandson, the great-great-grandfather of George L. Davis, in 1720, bought with two others 2,500 acres in Oxford, Mass., and there made his home. From then on the Davis family was prominent in state and town affairs. John Davis, George L. Davis's grandfather, was Major General of Militia and held important positions in his town and state.

On his father's farm, George L. Davis spent his boyhood days gradually obtaining through the discipline of the farm labor, but more especially through the guidance and strict moral training and companionship of noble Christian parents, his splendid vitality, sterling integrity, and large business capacity. He attended the district school during the winter and so apt a scholar and sensible a boy was he, that at the age of eighteen we find him teaching the village school in the neighboring town of Sutton, and being advised by the school committee of that town to remain at the school and adopt teaching as a profession. But deciding that he preferred a business career, he gave up his school and with his parents' consent left home in the spring of 1835, and came to Andover to learn the machinist's trade with Barnes, Gilbert & Co. From that time up to the day of his death his name was associated and carried weight with this pioneer enterprise of building woolen machinery in New England. He was in fact the real founder of the present large corporation which bears his name. His sagacity guided the business through its infancy and growth to a successful standing. His careful management fostered the enterprise, enlarged its output of improved machinery, extended its business acquaintance and inspired confidence in its productions, until everywhere its machinery was recognized as the standard, and its name a sign of business integrity.

But George L. Davis was more than a successful business man. He was

emphatically a man of affairs, identified with the needs of his locality. In his lifetime he saw North Andover develop into a beautiful and thriving town with its free schools and Christian churches. He witnessed the birth of the well known city of Lawrence, watching and helping its growth. The numerous places of trust held by Mr. Davis, furnish evidence of the high regard in which he was held. Besides being at the head of the Davis & Furber Machine Company for so many years, he was for twenty-three years President of the Bay State National Bank of Lawrence, and also Vice-President of the Essex Savings Bank. He was President of the Lawrence Gas Company, Cabot Manufacturing Company of Brunswick, Maine, Norway Plains Company of Rochester, N. H., Winthrop Mills, Winthrop, Me., Lymansville Company, Providence, R. I., and director in many more large corporations.

In politics he was always a Republican, and his party, appreciating his ability and worth, sent him for four terms to the State Senate, and if he would have consented would have promoted him to Congress.

"Mr. Davis not only showed business ability of a high order, but was also a man of unimpeachable character. At his death it was said, 'The community has lost its best citizen,' and the truth of this statement is being realized more and more each year. His word was as good as his bond. He was a trusted man and every inch a Christian gentleman. He became a member of the Congregational Church in North Andover in May, 1852, and a deacon in 1857. A large contributor to religious charities, he was a consistent professing Christian, possessing a mind so well balanced and morally equipped that he fully understood his duty to God and to his fellow men. His honest heart was never charged with hypocrisy or meanness and his Christian example never criticised. Strong in his faith, he believed that while he was trying to serve God with a devoted heart, it was right for him to enjoy reasonably all that was given him. This made him a happy, agreeable companion, cheerful and contented, with an ever abiding love of God and an ever increasing faith that enabled him in his last conscious moments to repeat familiar and beloved verses of Scripture, and to go to his reward in peace."

Mr. Furber's death when he was but thirty-nine years old, and in the midst of a successful career of great promise, left George L. Davis to carry on and build up the business. And to him more than to any other is due the credit of making the Davis & Furber Machine Company what it is to-day.

Charles Furber

CHARLES FURBER was a man of sterling character, a keen business man and a delightful partner. He was a brother beloved by his associates and employees. An indication of the high regard in which he was held is found in the following obituary published at the time of his death:

"Died in North Andover, June 18, 1857, of typhoid fever, Charles Furber, Esq., Representative to the General Court from this town, aged thirty-nine. On the announcement of his death, the entire village of his residence was shrouded in sadness; business was at once suspended; a flag was hung at half mast and mourners were seen in the streets. Funeral obsequies were observed on Sabbath afternoon; first at the dwelling house, where prayer was offered by Rev. Mr. Brayton of Lawrence, and members of his choir sung pieces both impressive and appropriate. The remains of the deceased were then followed by a long procession to the Unitarian Church in North Andover. Select portions of Scripture were read by Rev. Mr. Vinal, pastor of the church, who also offered fervent prayers remembering with affecting interest the widow, child, and all who suffered by the sad bereavement."

"Rev. Mr. Brayton preached a solemn discourse from the text 'The time is short,' closing with a just testimonial to the excellency of the character of his late parishioner, and proffering to the sorrow stricken widow expressions of sympathy and condolence. A vast concourse of people from the vicinity were assembled to pay the last tribute of respect to their late worthy and esteemed citizen, and exhibited their heartfelt grief by mingling with the afflicted ones the sympathizing tear. The following members of the Legislature were present to testify their regard for a member with whom they had so lately and so affectionately been associated, viz.: —Messrs. Foster of Andover, Tenny of Groveland, Stickney of Georgetown, and Flanders of Lawrence."

"In the prime of life, in the midst of usefulness, surrounded by everything that contributes to earthly happiness, has passed away one who has adorned every position it has fallen to his lot to occupy, and whose early demise leaves a chasm in our community it will be difficult to fill.

Let his virtue be emulated and his sudden departure deeply impress us with the important lesson to 'so number our days that we may apply our hearts unto wisdom.'"

"Mr. Furber was born in Nottingham, N. H., February 14, 1818. At the age of seventeen he went to learn the carpenter's trade of a brother residing in Chester. After serving out his apprenticeship he came to Massachusetts and worked as a journeyman in Lynn, Methuen, and Andover. He commenced work at the Machine Shop in North Andover, January 1, 1844; continued a shop hand about six months, then went out setting up machinery, and continued with Messrs. Gilbert, Gleason and Davis until September, 1846. At the earnest solicitation of Samuel Lawrence, Esq., he then took charge of the Card Room of the Middlesex Corporation at Lowell, continued about a year in that position, when, at the request of the same gentleman, he removed to Lawrence, and became Superintendent of Card Room No. 1, Bay State Corporation. On the first of July, 1848, he formed a co-partnership with George L. Davis, for the manufacture of woolen machinery in North Andover. Their business ever since that time has been profitable, and they were worthy of success. During the whole period not a single unpleasant word passed between them, nor was there a difference of opinion even with regard to any of the details of their affairs. Similar pleasant relations always existed between employer and employee. He was an ingenious mechanic, and an enterprising, public-spirited man. At an early age his father died, leaving him in indigent circumstances; but by his indomitable perseverance he acquired a competence, a striking illustration of what honesty, industry, and sterling integrity will accomplish."

"He was married in December, 1845, to Miss Harriet Bradley of North Andover. They have had two sons, the youngest died in March, 1856, at the age of twenty-two months; the eldest, in whom the hopes of his widowed mother are now concentrated, is six years old. He has also left a mother, brother, and sisters, all residing in Kentucky."

"The writer feels his incompetence to do justice to the memory of one so universally beloved, and possessing in such an eminent degree so many excellent traits of character; but an acquaintance of a few months has ripened into an affection which time will not obliterate, and which has prompted this tribute."

John Adams Wiley

JOHN ADAMS WILEY was born in South Reading, now Wakefield, Mass., February 1, 1825, the son of Nathaniel and Lydia (Trull) Wiley. When fourteen years old he was apprenticed to Oliver Parker, a carriage builder, in Woburn, graduating as a skilled workman after five years' service. During the first part of 1845 he was employed in Frye Village by the well known carriage building firm of W. & J. Poor. On October 23, 1845, he began work for Gilbert, Gleason & Davis, and, his efficiency and faithfulness soon being appreciated, he was sent out on the road to install their machinery. This he continued to do until January 1, 1858, when he was taken into partnership. While traveling extensively in the United States and Canada setting up the productions of the company, and subsequently soliciting orders for machinery, he formed firm and lasting friendships among the mill owners, and few men of his time were better known by woolen manufacturers.

He was a hard worker and his marked ability made him a prominent factor in the firm. He saw it grow from a small shop to a great plant with an international reputation, and to his unceasing effort no small share of its success is due. Mr. Wiley's knowledge of men and affairs covered a wide range, and his breadth of vision together with his accurate judgment made him a master of his business. His sincerity and simplicity were characteristic. Caring nothing for society even when he had risen to a position of influence and honor through his own ability, he remained plain and unassuming. Cordial, kind and forgiving, he loved to befriend in an unobtrusive way, and many were his benefactions. In politics he was an independent Democrat, and served his party in the State both in the House of Representatives and the Senate.

Besides being President of the Davis & Furber Machine Company, he was at the time of his death a director in the Pacific National Bank and various other companies. He was a 32d degree Mason of the Scottish rites bodies of Lowell and Boston, and a member of several fraternal organizations.

Joseph Mason Stone

JOSEPH MASON STONE was born in Grafton, Vermont, in 1820; he died in North Andover, February 17, 1887, aged 67 years. His father, a well-to-do farmer in Grafton, after business reverses, moved to New Market, N. H., where he soon died, leaving his widow, this young son Joseph, and two daughters. After his father's death Joseph went to work in the mill of the New Market Manufacturing Company. Here his mechanical turn of mind soon caused the agent to transfer him to the repair shop where he made a name for himself as a painstaking, ambitious and skillful workman.

In 1838 or 1839, he left New Market, and worked several months for Barnes, Gilbert & Richardson, and later he was engaged by John Smith of Frye Village, to assist him in making cotton and flax machinery.

In 1846 he became head draughtsman for the Essex Company of Lawrence, Mass., leaving there in 1850 to enter the employ of the Amoskeag Machine Shop of Manchester, N. H., where he took contracts by the job to build different kinds of machinery. It was here that he invented and built the first iron screw planer ever made. He also invented and brought out a radial arm attachment for the accurate shaping on an iron planer of curved surfaces. This latter attachment proved a most valuable device, especially in making locomotive "links."

In 1858 he moved to Boston, and while working for the Hinckley Locomotive Works, built marine engines for two United States warships, the "Sasacus," and the "Narragansett." Here also he built the famous steam fire engine, "Rob Roy," which was far in advance of anything in its line. This machine, purchased by the city of Boston, was No. 1, and remained on duty in South Boston for many years until entirely worn out.

In the latter part of 1859, he returned to the Manchester Locomotive Works at Manchester, N. H., where his inventive skill was shown in many new and improved machines, prominent among which was the steam fire engine "Dearborn."

It was in the fall of 1860 that Mr. Stone made the final business change of his life and became a member of the firm of Davis & Furber. He brought with

him an extensive experience in designing, and immediately began to remodel the warping, spooling, and finishing machinery. Having disposed of this class of machines he next took up in order the picking, the weaving, and the carding machines. The all-roll-condensers that he designed were for years the best in the market, and even to this day are popular on certain kinds of work. He also took an active part in introducing the manufacture of the woolen mule, engaging the experts who originated the Davis & Furber type, thousands of which have been sold. He designed a new and improved type of cotton spinning frame, which was adopted and substantially copied by other large makers of cotton machinery. He organized and put in operation a large business in shafting, pulleys, hangers and couplings, inventing the hanger still being made by the company, and developing many special machine tools for making pulleys, couplings, etc.

Throughout his life Mr. Stone was distinguished for his ambition and energy. While a bobbin boy in the cotton mill at New Market, he attended the night school, and later without a teacher, he took up and mastered all the intricacies of mechanical drawing; his work in this respect being always distinguished by carefulness, finish, and marked originality. Those of his memoranda and drawings which have been preserved show conclusively the imprint of a master hand. Early in his life the maintenance of the family devolved upon the young man, a charge which he continued for years after he had a home of his own. After his ambition to forge ahead had taken him away from home the first hundred dollars he saved from his earnings he sent to his mother.

He was a man of social nature; his "beautiful bass voice" gave pleasure to many. In personal habits "an excellent example to his associates," from his early days he was a church member and his valuable aid and assistance are remembered by many clergymen. A man of broad views, possessed of unusual taste, he had a singular faculty for improving everything he touched, and left the impression of his genius on the streets and public buildings of every town in which he lived. Mild and even tempered, a true and helpful friend, his passing left a permanently vacant place in the family and the circle of his acquaintance.

James Henry Davis

JAMES HENRY DAVIS, second son of George L. Davis, was born April 18, 1846, and died December 29, 1886. The following account of his life was written at the time of his death:

"Although not wholly unexpected, the intelligence of James H. Davis's death, which occurred at Salem, on Wednesday, December 29, was received with marked manifestations of universal sorrow about North Andover. At the extensive works of the Davis & Furber Machine Company, of which he was a member, and in charge of the card clothing department, the employees freely expressed their feelings of grief, for he was a great favorite on account of his kindness and consideration towards those under his charge."

"Mr. Davis attended the public schools of his native place and also Phillips Academy, Andover, and the Military Academy at Worcester, finishing his education at Williston Academy. During vacations, when between sixteen and eighteen years old, he worked at the machinist business in the jack room, thus acquiring a practical knowledge of the trade. At the last named age he entered the counting room of the concern, remaining until 1880, when he succeeded his brother, George G., as superintendent of the card clothing department, one of the largest in the country. Since 1868 he has been one of the owners of the establishment. He had excellent business ability, a sagacious judgment, and was a most valuable member of the corporation. Tall and of graceful bearing, big hearted, very charitable and hospitable, he has passed away, as one who knew him intimately said: 'without a stain on his noble character.' The poor will miss him greatly for he was one of their best friends."

Eben Augustus Baldwin

EBEN AUGUSTUS BALDWIN, born in Salem, October 16, 1849, was the son of a Salem sea captain, Eben S. Baldwin and Mary B. (Smith) Baldwin. He died at Putnam, Conn., December 22, 1898.

In 1865, when sixteen years old, having graduated from the Pickering Grammar School he came to Davis & Furber as an apprentice. With his natural aptitude for mechanical work he soon mastered the elements of the trade, and as soon as he could call himself a machinist, he went to Lockport, N. Y., where he obtained employment for a time. Here it was that evenings after work he continued his studies in drawing begun in Lawrence, which served him in such good stead in later years. Before long, however, he returned to Davis & Furber to assist Peter McGovern in his experimental work on the mule. From that time on he rose step by step until he was one of the partners in the business. His first important work for the Company was in remodeling and improving the mule, in the course of which he took out several important patents. He then took up work in the Card Department, improving the cards in his usual energetic and thorough manner. Before long his experience in nearly every department of the works made him invaluable to the firm, and as a natural result he was taken into partnership. Holding as he did the implicit confidence of his partners, knowing intimately all the details of each department, he was a power in the Company; a man by whose death when but forty-nine years old, the Company and the community suffered a real loss.

Mr. Baldwin was prominent in Masonic circles, being a member of Cochichawick Lodge, Mount Sinai Royal Arch Chapter, and Past Commander of Bethany Commandery No. 17 of Lawrence.

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"Continuous Tapes Mean Continuous Production"

WALLISFORD MILLS SUPERINTENDENT EXPLAINS HIS STATEMENT

Continuous Tapes for the Condenser is a definite step forward in Carding at Wallisford Mills, Keene, New Hampshire, where continuous production is a must.

This is the beginning of a story told your D&F News Reporter when we cornered Mr. Herschel L. Cushman, Superintendent, and Harold Easter, Boss Carder, in their efficient and clean Eight-Card Room.

At Wallisford you are impressed by the importance they attach to making every minute count. For example, the nine Davis & Furber Spinning Frames are located next to the Davis & Furber Cards. Harold Easter, (Boss Carder) and Joseph Lopes, (Boss Spinner) are each experienced in both fields and pitch in to help each other whenever necessary.

Time Saving by using Atlas Continuous Tapes, however, is the subject of this review.

A great variety of reworked stock, average 3-5/16 run, is processed, one lot following another, presenting a real challenge to tape longevity. This is just one reason why they prefer Atlas. Their list of reasons for using these Continuous Tapes is almost a duplicate of Advantages listed in the April issue of D&F News.

(Continued on Page Two)

(Continued From Page One)

No Loss of Production — Changing Continuous Tapes

For example, with unusual wear introduced by a **variety of stock** containing unknown wool oils and emulsions, this Carding Room has found that they can change a Continuous Tape without interrupting production. That means without running stock out of condenser, without even losing an end. They don't have to take the spools off the Condenser.

Total changing time required is 15 minutes for two men, vrs. four hours for three men changing a set of Individual Tapes.

Total **Down time** is no more than **5 minutes** according to Superintendent Cushman.

End to end tests taken during this operation show no loss in uniformity of quality - even in a synthetic blend which he has considered one of the worse lots.

For Improvements in End-to-End Uniformity, the mill now records present weight variation plus and minus 2-½% from a previous plus and minus 8%.

Ninety-Five Percent of Roll Wraps and Tape Wind-ups have been eliminated; and even if and when this happens any tape stretch that might occur could be quickly evened out and taken up by the **Tension Roll.**

The even tape tension resulting from the use of Continuous Tapes has improved their **Web Cutting ability** so that all lots can be successfully processed where previously some could not.

Wallisford Mills has shown that higher Card Speeds are practical by using Atlas Continuous Tapes. They have been able to increase the Winding Frame Spool Drums, in some cases, from 38 R. P .M. to 44 R. P. M. The resultant higher tape speeds **does** reduce the useful life of the Clipper Tape Hooks, but because with continuous tapes there is usually only one set per card, changing it every two weeks or so is no problem, claims Herschel L. Cushman.

L. to R. Herschel Cushman with his Boss Carder, Harold Faurr

ATLAS Continuous Tapes

ON ANY CARD CONDENSER

User Advantages

1. Improvement in End-to-End Uniformity.
2. Reduction in ends down in spinning.
3. Elimination of most Roll Wraps (Wind-ups).
4. Elimination of tape stretch damage.
5. Heavier tension possible for heavier work.
6. Even end-to-end tension for successful carding in greater range of low grade stocks.
7. Higher Production because higher tape speed practical.
8. Changing Tapes without stopping production.

P. I. V. Variable Speed Drives . . .

as described in the enclosed Link-Belt Ad Reprint

is another example of

Control of Quality and Production . . .

designed into our D&F Model L 84" Woolen Card

Check the green D&F News Model L Card Quick Review for application photos of other variable speed drives

a) for Fancy Drives

b) *to control lay of laps* on Center Draw Feed table

c) *to vary speed* of Center Draw Feed Traversing Roll

d) *to control Web Tension* between Doffer and Divider Rolls

e) *to adjust proper Doffer speed* for blend being run, independent of worker speed, without changing gears.

f) *to control draft* between aprons and spool drums on Condenser.

g) *to control density* of roping on spools (collectively or each bank separately).

DAVIS & FURBER

WOOLEN
and
WORSTED

CARDING EQUIPMENT

This NEW CATALOG, recently published and distributed,
LISTS, DESCRIBES AND PICTURES IN DETAIL;*

FOR EXPERIENCED CARDERS

* a) Each type of Cards available
* b) Each section of a Card
* c) Each Accessory and Auxiliary Equipment
* d) Each type of Supplies and their unique advantages

FOR BEGINNER

In addition, Section One includes important information -
* a) History of the company
* b) What is a Carding Machine
* c) Figuring New Carding Needs

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If you haven't seen it, or haven't your own file copy, write now, or ask your D&F man.

REMINDER

on our Electric Motor Sale

If you didn't note, and act on the Motor Specification Sheet in last month's D&F News.

If you can use a 3 phase 10 H. P. or 15 H. P. Motor, investigate now.
Call R. A. Shellnutt, MUrdock 7-7126